

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

C-CATION TECHNOLOGIES, LLC,

Plaintiff,

v.

TIME WARNER CABLE, INC., ET AL.

Defendants.

Case No. 2:14-CV-59-JRG-RSP

**C-CATION TECHNOLOGIES, LLC'S
OPENING CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION

Plaintiff C-Cation Technologies, LLC (“Plaintiff” or “C-Cation”) hereby respectfully submits its Opening Claim Construction Brief in support of its proposed constructions for the claim terms at issue in U.S. Patent No. 5,563,883 (“the ’883 patent”).¹

This is not the first time that this Court has been called upon to construe claim terms of the ’883 patent.² In fact, this Court has already construed many of the terms at issue here in a previous litigation.³ *See C-Cation v. Comcast*, D.I. 222. In the instant case, defendants present claim construction positions that rely on many of the same arguments that this Court has already found unpersuasive. Their proposals are at odds with the intrinsic evidence, improperly import limitations from the specification, and/or are contrary to the ordinary meanings of the identified terms. Defendants also assert that several claim terms, including terms previously construed by this Court, are indefinite. In so doing, defendants ignore the relevant portions of the specification, the context in which the claim terms are used, and the relevant dependent claims, each of which contradicts defendants’ positions.

By contrast, C-Cation again proposes claim constructions that are dictated by the claim language, specification and prosecution history of the patent-in-suit. Nothing has changed to

¹ Exhibits are annexed hereto. A copy of the ’883 patent in searchable PDF form has been provided as Exhibit 1 in accordance with P.R. 4-5(a).

² The previous litigation is captioned *C-Cation Techs., L.L.C. v. Comcast Corp. et al.*, No. 2:11-CV-30-JRG-RSP (“*C-Cation v. Comcast*”).

³ Claims 1, 3, and 4 are asserted in this litigation, of which claim 1 is an independent claim. C-Cation is no longer asserting claim 14 and, therefore, the Court does not need to construe any of its terms. *See* D.I. 78.

warrant a departure from the Court's prior constructions and C-Cation respectfully requests that its proposed constructions be adopted.

II. BACKGROUND OF THE '883 PATENT

The '883 patent relates to improving the efficiency and quality of services delivered by cable service providers to subscribers, i.e., telephone, internet, and/or television services. Figure 1, reproduced below, shows an exemplary communication system for providing such services, as contemplated by the '883 patent:

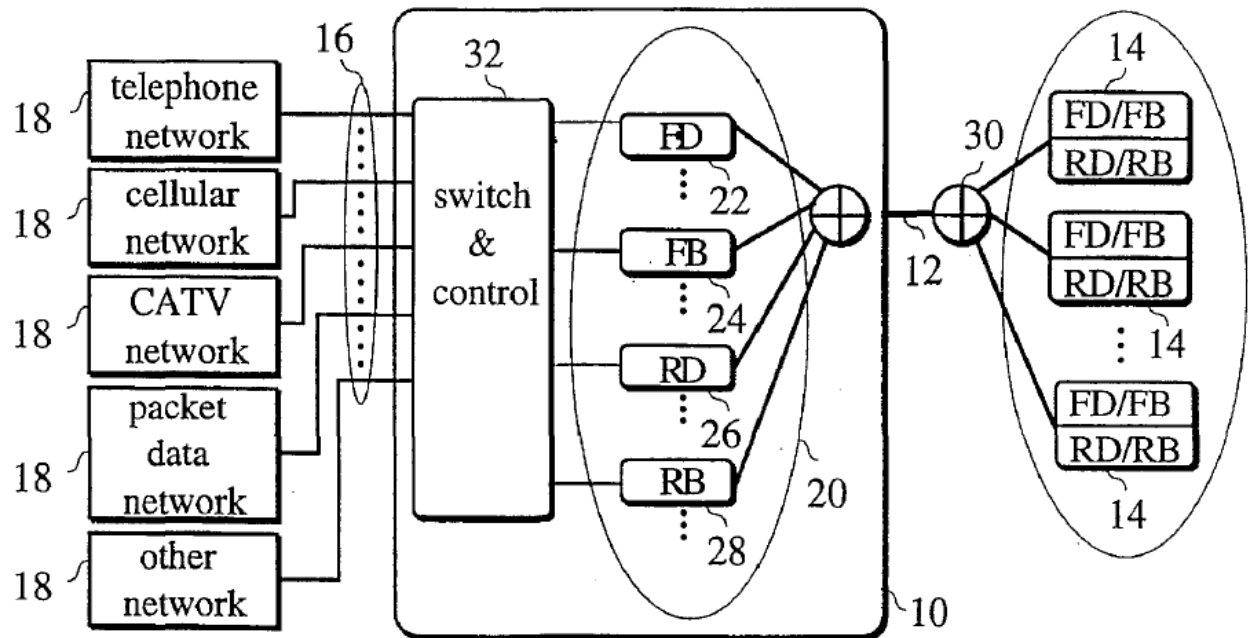


Figure 1

A central controller 10, maintained by the service provider, manages subscriber access to wide area networks 18. Subscribers obtain services through remote terminals 14, e.g., cable modems or set top boxes that contain cable modems, connected to the central controller.

In modern cable systems, the communication between a central controller and remote terminals is bidirectional and spans a wide spectrum of frequencies (or "channels"). The '883

patent discloses two types of channels—signalling data channels and traffic bearer channels.

Signalling data channels can carry both signalling and data traffic between the central controller and remote terminals.⁴ Ex. 1, col. 5:59-62. These signalling data channels are shared by multiple remote terminals. *See id.* at col. 7:6-20.

The '883 patent discloses and claims a system for the intelligent and flexible management of channels by the central controller to maximize transmission quality and responsiveness of a shared communication system. *See id.* at col. 1:35-38, 6:52-54. To this end, the central controller may reassign remote terminals to different signalling data channels in response to varying traffic demand or other system dynamics. *See id.* at col. 8:32-34. For example, the number of remote terminals per channel may be evenly distributed according to traffic demand, and, in the case where each user has identical traffic requirements, the number of remote terminals assigned to each channel will be equal until some change in the system occurs. *See id.* at col. 6:67-7:5.

Claim 1 recites a method that accomplishes this by: (1) assigning a forward and reverse signalling data channel to each remote terminal (step (a)); and (2) managing the system by monitoring the channels for various quality parameters (step (b)), determining if any remote terminal is assigned to a channel that is providing less than optimal performance (step (c)), determining if a suitable channel exists (step (d)), and, if so, reassigning a remote terminal to the suitable channel (step (e)). This process allows the entire system to run as efficiently as possible within a constantly changing environment.

⁴ In contrast, traffic bearer channels are set up only when an individual remote terminal has traffic needs that exceed the practicality of transmission over a channel that is shared with other remote terminals. In such instances, the '883 patent describes setting up a dedicated traffic bearer channel for that specific remote terminal. *See* Ex. 1, col. 7:45-49.

III. LEGAL STANDARDS FOR CLAIM CONSTRUCTION

The words of a claim are generally given their “ordinary and customary meaning” as understood by a person of ordinary skill in the art, at the time of the invention, when read in the context of the specification and prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). It is not necessary to construe every claim term. *See, e.g., Thorner v. Sony Computer Entm’t Am. L.L.C.*, 669 F.3d 1362, 1368 (Fed. Cir. 2012) (finding that the term “attached” should be given its plain and ordinary meaning); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1206-07 (Fed. Cir. 2010); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (claim construction “is not an obligatory exercise in redundancy”).

There are only two exceptions to the general rule that words are generally given their ordinary and customary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner*, 669 F.3d at 1365 (citing *Vitronics Corp. v. Conceptiontronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir. 1996)). It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must “clearly express an intent” to redefine the term. *Id.* Limitations should not be imported from the specification into the claims without a “clear intention to limit the claim scope.” *Arlington Indus. Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011); *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 843 (Fed. Cir. 2010); *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009) (“The patentee is entitled to the full scope of his claims and [a court] will not limit him to his preferred embodiment or import a limitation from the specification into the claims.”); *see also Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 807-08 (Fed. Cir. 2007).

A claim term is only indefinite if, when read in view of the patent and the prosecution history, it fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *See Nautilus, Inc. v. Biosig Instruments, Inc.* 134 S. Ct. 2120, 2129 (2014).

Definiteness is evaluated from the perspective of a person skilled in the relevant art, and measured as of the time of the patent application. *See id.* at 2128. The level of certainty that is required is not greater than is reasonable given the subject matter of the claim. *Id.* Because indefiniteness is a challenge to the validity of a patent, the failure of any claim to comply with definiteness requirements must be shown by clear and convincing evidence. *See id.* at n.10; *Abstrax, Inc. v. Hewlett-Packard Co.*, No. 2:14-CV-158-JRG, 2015 U.S. Dist. LEXIS 3384, at *9-10 (E.D. Tex. Jan. 12, 2015) (Gilstrap, J.) (citing *Nautilus*).

In assessing indefiniteness, the context in which the claim term is used must be considered. *See Phillips*, 415 F.3d at 1314 (“To begin with, the context in which a term is used in the asserted claim can be highly instructive.”); *Abstrax*, 2015 U.S. Dist. LEXIS 3384, at *49-50 (“This is a fundamentally simple term that the Defendant has gone to great lengths to make complicated and present as indefinite. Importantly, Defendant gives no effect to the surrounding claim limitations and instead attempts to construe the term in isolation. In truth, the surrounding claim limitations provide specific guidance to this term as claimed”); *Mass Eng’red Design, Inc. v. Ergotron, Inc.*, 559 F. Supp. 2d 740, 751-52 (E.D. Tex. 2008) (Davis, J.) (finding the term “desired degree” to be definite when viewed in the context of the claim as a whole). Relevant dependent claims must also be considered as they may assist in defining a term. *See Phillips*, 415 F.3d at 1314 (“Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.”).

Further, the mere use of qualitative terms of degree alone is insufficient to support a finding of indefiniteness. *See Interval Licensing L.L.C. v. AOL, Inc.*, 766 F.3d 1364, 1370-71 (Fed. Cir. 2014) (“We do not understand the Supreme Court to have implied in *Nautilus*, and we do not hold today, that terms of degree are inherently indefinite. Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.”); *see also Largan Precision Co. v. Genius Elec. Optical Co.*, No. 13-cv-02502-JD, 2014 WL 5358426, at *7-8 (N.D. Cal. Oct. 20, 2014) (noting that terms of degree such as “near” and “proximate to” have been found to be definite by the Federal Circuit several times and finding an accused infringer’s concern that a patentee’s competitors would not know how to evaluate infringement is a question of proving infringement, not indefiniteness).

IV. DESCRIPTION OF A PERSON OF ORDINARY SKILL IN THE ART

In the present case, a person of ordinary skill in the art at the time of the invention would have had at least a bachelor’s of science degree in electrical engineering, computer science, or a closely related field and two to three years of employment experience in telecommunications, computer networking, or a closely related field.

V. PROPOSED CONSTRUCTIONS OF THE CLAIM TERMS AT ISSUE

The parties agree upon the following proposed constructions:

Claims	Term	Agreed Construction
1	signalling data	information concerned with the control of communications
1, 3, and 4	remote terminals	communication devices at a location remote from the central controller

Claims	Term	Agreed Construction
1 and 4	pair of predetermined signalling data channels	a forward signalling data channel and a reverse signalling data channel determined prior to establishing communications

As this Court determined in the previous litigation involving the '883 patent, the parties' agreement as to these terms is supported by the specification and the context provided by the claims. *See, e.g., C-Cation v. Comcast*, D.I. 222 at 6-8 (signalling data), 17-19 (remote terminals), 19-24 (pair of predetermined signalling data channels).

The disputed terms of the '883 patent are discussed below.

A. Preamble Terms

Term	C-Cation's Construction	Defendants' Construction
a shared transmission means for signalling data and user information	<p>As part of the preamble, term is non-limiting and needs no further construction.</p> <p>To the extent construction is deemed necessary: a medium for transmitting signalling data and user information between a plurality of remote terminals and a central controller</p> <p>Phrase should not be construed under 35 U.S.C. § 112(6). If, however, construction under 35 U.S.C. § 112(6) is deemed appropriate:</p> <p>Function: shared transmission of signalling data and user information</p> <p>Structure: includes: (1) airwaves; (2) coaxial cable; (3) fibre optic cable; or (4) wires</p>	<p>Phrase should be construed under 35 U.S.C. § 112(6):</p> <p>Function: carrying and transmitting information on signalling data and user information channels</p> <p>Structure: communication media common to a plurality of remote terminals having forward and reverse bandwidth onto which separate signaling data and traffic bearer channels are multiplexed in both the forward and reverse directions</p>
user information	As part of the preamble, term is non-limiting and needs no further construction.	information other than signalling data transmitted to or from users of the system

C-Cation submits that the phrases "a shared transmission means for signalling data and

user information” and “user information,” both of which are found only in the preamble of claim 1, are not limitations and do not require construction. The Court previously addressed whether these phrases are limitations of claim 1 and determined in both cases that they are not. *See C-Cation v. Comcast*, D.I. 222 at 12-16. In short, C-Cation submits that these terms should be found to be non-limiting for the same reasons the Court did so in the previous litigation.

1. “a shared transmission means for signalling data and user information” (claim 1, preamble)

The preamble of claim 1, and in particular this phrase, describes a feature (a medium for transmission) that necessarily exists in any multiple access communication system, which is the field that the ’883 patent is directed to. *See, e.g.*, Ex. 1, col. 1:5-12; col. 5:8-12. The preamble does not specify how the invention is to operate, and deletion of the preamble—in whole or in part—would not affect the steps of the claimed invention. Instead, it is the language of the body of claim 1 that sets forth the steps of operation of the claimed system. In such circumstances, the language of a preamble is not properly considered to be a claim limitation. *See Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010) (“A preamble is not regarded as limiting, however, when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention.”) (internal quotation marks omitted); *Schumer v. Lab. Computer Sys., Inc.*, 308 F.3d 1304, 1310 (Fed. Cir. 2002). Here, the “shared transmission means” does not set out any aspect of the invention, and therefore does not require construction. *See Schumer*, 308 F.3d at 1310 (“It is well settled that if the body of the claim sets out the complete invention, and the preamble is not necessary to give life, meaning and vitality to the claim, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.”) (internal quotation marks omitted).

Should the Court determine that “a shared transmission means for signalling data and user information” is a claim limitation, C-Cation submits that it need not be construed as its ordinary meaning is clear to those of ordinary skill in the art at the time of the invention. *See Thorner*, 669 F.3d at 1367-68. Indeed, it is easily understood in the context of this patent as simply the medium, such as cable, wires or airwaves, by which a terminal and a central controller communicate. *See* Ex. 1, col. 1:7-10, col. 1:39-49, col. 5:54-57. This is further supported by numerous publications from the same time period that refer to a shared transmission medium in similar context as the ’883 patent without explicitly describing the components that would comprise the medium.⁵ Construction of commonly understood terms such as the “shared transmission means” terms is not necessary. *See, e.g., Thorner*, 669 F.3d at 1368; *Finjan*, 626 F.3d at 1207; *U.S. Surgical*, 103 F.3d at 1568.

Nevertheless, defendants assert that “a shared transmission means for signalling data and user information” requires construction and should be construed as a means-plus-function term. Even if construction is determined to be required, which C-Cation disputes, the inclusion of the word “means,” does not necessitate construction under 35 U.S.C. § 112, ¶ 6⁶ since the term

⁵ *See, e.g.,* Ex. 2 (’366 patent), at abstract, col. 1:59-61, 6:7-20, 6:28-42, 6:48-8:27 (concerning intermixing circuit and packet data on a shared transmission medium); Ex. 3 (’413 patent), abstract, figs. 1-2, col. 1:23-36, 2:55-3:30, 3:45-55, 5:48-6:12, 6:26-7:21, 7:40-62 (concerning allocation of bandwidth over a shared transmission medium); Ex. 4 (’735 patent), figs. 2-4, col. 3:66-4:31, 9:3-5, 9:21-28 (referring to a plurality of stations that communicate on a shared broadcast-type transmission medium); Ex. 5 (’167 patent), abstract, fig. 1, col. 1:32-36, 1:59-2:2, 3:65-4:5, 7:3-12, 13:44-14:10, 29:32-30:5 (referring to a plurality of processors connected to a shared transmission medium); Ex. 6 (’577 patent), abstract, col. 1:55-64, 2:5-11, 2:55-64, 3:28-68, 5:18-68 (describing a method for providing access by secondary stations to a shared transmission medium); Ex. 7 (’907 patent), abstract, col. 1:25-35, 1:50-56, 2:4-28, 2:43-3:37, 4:13-31, 6:24-40 (describing an ATM network as a shared transmission medium).

⁶ On September 16, 2012, as part of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, paragraphs 1-6 of 35 U.S.C. § 112 were designated as §§ 112 (a)-(f). However, this amendment is applicable only to patents filed on or after September 16, 2012. *See* AIA, (continued...)

connotes sufficient structure. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1257 (Fed. Cir. 1999); *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1347 (Fed. Cir. 2002) (“The mere use of the word ‘means’ after a limitation, without more, does not suffice to make that limitation a means-plus-function limitation.”). Indeed, “if the claim term is used in common parlance or by persons of skill in the pertinent art to **designate structure**, even if the term covers a broad class of structures and even if the term identifies the structures by their function,” application of § 112, ¶ 6 may be avoided. *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1356 (Fed. Cir. 2006) (emphasis added).

As demonstrated by the extrinsic evidence referred to above (*see supra*, n. 5), it was well understood by those of ordinary skill in the art that this term means a transmission medium commonly used in multiple access telecommunication systems. Indeed, reciting a “shared transmission means” in a telecommunications patent is akin to claiming a “circuit” in a patent in the field of electronics. Both connote sufficient structure and neither requires construction under § 112, ¶ 6. *See Inventio AG v. ThyssenKrupp Elevator Am. Corp.*, 649 F.3d 1350, 1358-59 (Fed. Cir. 2011) (“[W]e have concluded that a claimed ‘circuit,’ coupled with a description of the circuit’s operation in the claims, connoted sufficiently definite structure to skilled artisans to avoid the application of § 112, ¶ 6.”) (citing *Mass. Inst. of Tech.*, 462 F.3d at 1355-56); *Moody*, 2012 WL 5335842, at *10-12 (finding that the term “pump means” sufficiently described structure and that the term was not subject to § 112, ¶ 6).

To the extent that the Court determines that “a shared transmission means” should be

Pub. L. No. 112-29 § 118(e), 125 Stat. 297 (2011). In any event, the change to § 112 has no substantive effect. *See, e.g., Moody v. Aqua Leisure Int’l*, No. H-10-1961, 2012 WL 5335842, at *8, n. 42 (S.D. Tex. Oct. 26, 2012). C-Cation refers to the pre-AIA designations of § 112 because the ’883 patent was filed before that date.

construed under § 112, ¶ 6, the Court should reject defendants’ proposed construction as it provides functional limitations, that are not recited in claim 1. *See Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003) (For means-plus-function elements, the court must first determine what the claimed function is and then “construe the meaning of the words used to describe the claimed function, using ordinary principles of claim construction.”); *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) (“Under § 112, ¶ 6, a court may not import functional limitations that are not recited in the claim, or structural limitations from the written description that are unnecessary to perform the claimed function.”). For example, defendants proposed function of “carrying and transmitting information on signalling data and user information channels” could be interpreted to require that a system include channels other than signalling data channels. Such an interpretation is inconsistent with claim 1, which discusses only signalling data channels.

The defendants’ construction also fails to identify a proper structure. The structure of “a shared transmission means” properly includes all of the structures disclosed in the patent specification for transmission on a shared communication network. *See Lockheed Martin*, 324 F.3d at 1318 (A means-plus-function limitation “must be construed to cover corresponding structure, material, or acts described in the specification and equivalents thereof.”); *Ishida Co. v. Taylor*, 221 F.3d 1310, 1316 (Fed. Cir. 2000) (The “proper application of § 112 ¶ 6 generally reads the claim element to embrace distinct and alternative described structures for performing the claimed function. Specifically, disclosed structure includes that which is described in a patent specification, including any alternative structures identified.”) (internal quotation marks omitted). The ’883 patent explicitly discloses a “coaxial cable-TV network,” a “radiotelephony and local-area-network (CSMA/CD) environment,” a “CATV network,” including “splitters and

taps connecting the branches that make up the network” and further describes that the “present invention is useful for interworking with a variety of different wide area networks.” *See* Ex. 1, col. 1:7-10, 1:39-49, 5:54-74. Additionally, “transmission medium” was understood by those of skill in the art to include, by way of example, “optical fiber, coaxial cable, and twisted-wire pairs.” *See* Ex. 8. Defendants’ proposed structure conflates the function and structure associated with the phrase into a single, intertwined concept.

Thus, the proper structure includes the communication networks disclosed in the patent, and if the “shared transmission means” terms are construed under § 112 ¶ 6, C-Cation’s proposed “means-plus-function” construction provided in the above table should be adopted.

2. “user information” (claim 1, preamble)

The term “user information” appears only in the preamble of claim 1 as part of the phrase “a shared transmission means for signalling data and user information.” C-Cation submits that “user information” is not a limitation for the same reasons as “a shared transmission means.” *See supra*, Section V.A.1. Inclusion of “user information” does not specify how the invention is to operate and therefore is not a claim limitation. *See Am. Med. Sys.*, 618 F.3d at 1358-59.

To the extent “user information” is determined to be a limitation, it does not require construction because its meaning is clear both on its face and from the context of the specification and the claim language. *See, e.g., Thorner*, 669 F.3d at 1367-68; *Finjan*, 626 F.3d at 1207; *U.S. Surgical*, 103 F.3d at 1568. There is no technical or specialized meaning for this term. If construction is deemed necessary, the Court should reject defendants’ proposed construction, which neither clarifies nor explains the terms “user” or “information.” Indeed, in circular fashion, defendants’ construction uses the terms “user” and “information” to define “user information.” *See U.S. Surgical*, 103 F.3d at 1566-68 (affirming refusal to give jury instructions construing claim terms where proposed construction simply repeated words from

claim); *Wi-LAN, Inc. v. Acer, Inc.*, 712 F. Supp. 2d 549, 574 (E.D. Tex. 2010) (rejecting proposed constructions that “merely rearrange the words of the term to be construed” and improperly insert limitations not recited).

Further, defendants’ proposed construction defines user information not as to what it is, but what it is **not**: “information other than signalling data.” Such an open-ended construction is improper without support in the claim language or specification. *See Vertical Computer Sys. v. Interwoven, Inc.*, No. 2:10-CV-490-JRG, 2013 U.S. Dist. LEXIS 131719, at *29 (E.D. Tex. Sept. 16, 2013) (“Negative limitations generally require an ‘anchor’ in the claim language or in the specification.”) (citing *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1322 (Fed. Cir. 2003)).

B. “Signalling Data Channel(s)” (claims 1, 3, and 4)

C-Cation’s Construction	Defendants’ Construction
channels used for carrying signalling data; the channels may also carry user traffic	channels used for carrying signalling data; the channels may also carry user data

As this Court recognized in the previous litigation involving the ’883 patent, C-Cation’s proposed construction for “signalling data channel(s)” as “channels used for carrying signalling data; the channels may also carry user traffic” is fully supported by the specification, which unambiguously discloses that signalling data channels are used for carrying signalling or user traffic. *See C-Cation v. Comcast*, D.I. 222 at 9-12. C-Cation’s proposed construction is identical to the Court’s own construction of this term. *See id.* Defendants’ construction, on the other hand, uses the term “user data” instead of “user traffic.” However, there is no reason why the court should alter its prior construction.

The ’883 patent specification first explains that signalling data and traffic bearer channels are two types of channels that may be used to support communication between the central

controller and remote terminals in both the forward and reverse directions, and provides as examples, “forward signalling data or FD channel 22, forward traffic bearer or FB channel 24, reverse signalling data or RD channel 26, and reverse traffic bearer or RB channel 28.” Ex. 1, col. 5:15-21. The specification then defines the type of communications that each type of channel may carry:

As depicted in FIG. 2, the bandwidth is channelized for carrying traffic in the forward and reverse direction. **Data channels are used for carrying signalling or data traffic** while bearer channels are used for carrying user traffic similar to circuits in telephony.

Id. at col. 5:58-62 (emphasis added); *see also id.* at fig. 2 (depicting the FD, RD, FB, and RB channels). As C-Cation’s proposed construction of “signalling data channel” is fully supported by the specification, it should once again be adopted. *See, e.g., Phillips*, 415 F.3d at 1312-14 (Claim terms should generally be “given their ordinary and customary meaning” as informed by the specification.).

C. Channel Assignment

“establishing communications between said central controller and said plurality of remote terminals” (claim 1, step (a))

C-Cation’s Construction	Defendants’ Construction
Phrase should be given its ordinary meaning and does not require additional construction other than the phrase “remote terminals”	Establishing two-way connections between the central controller and two or more remote terminals so that user information can be transmitted and received

The term “establishing communications between said central controller and said plurality of remote terminals” is clear, self-explanatory on its face, and can be readily applied by the jury without modification. Thus, the term requires no construction other than for the term “remote terminals” as set forth above. *See, e.g., Thorner*, 669 F.3d at 1368; *Finjan*, 626 F.3d at 1207; *U.S. Surgical*, 103 F.3d at 1568.

By contrast, defendants' proposed construction seeks to impermissibly add multiple limitations into the claim that are neither found in the claim language nor the specification. *See Thorner*, 669 F.3d at 1366; *Arlington Indus.*, 632 F.3d at 1254; *i4i Ltd. P'ship*, 598 F.3d at 843; *Kara Tech.*, 582 F.3d at 1348; *Acumed*, 483 F.3d at 807-08. For example, defendants' construction: (i) substitutes "two-way connections" for "communications;" and (ii) adds a limitation "so that user information can be transmitted and received." Neither of these concepts is supported. In particular, nothing in claim 1 requires that user information be transmitted and received. First, when read in context, defendants' construction improperly contradicts the claim language. *See Phillips*, 415 F.3d at 1314 ("To begin with, the context in which a term is used in the asserted claim can be highly instructive."). In context, the claim language surrounding the phrase for construction makes clear that "establishing communications" occurs via the signalling data channels. The entirety of step (a) of claim 1 recites:

- (a) establishing communications between said central controller and said plurality of remote terminals **via a plurality of signalling data channels**, each of said remote terminals being initially assigned to a pair of predetermined signalling data channels;

(emphasis added). Signalling data channels are only required to carry signalling data.⁷ Thus, it is conceivable to have a system where **only** signalling data is transmitted and received on signalling data channels. In contrast, defendants' proposed construction for "establishing communications between said central controller and said plurality of remote terminals" requires that "user information can be transmitted and received." But this improperly imports a limitation into "signalling data channel" that contradicts the specification. *See Phillips*, 415 F.3d

⁷ Both parties constructions for "signalling data channel(s)" include "channels used for carrying signalling data; the channels may also carry"

at 1315 (“The specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.”) (internal citation omitted).

Moreover, defendants’ proposed construction ignores how step (a) of claim 1 is further defined in the patent. For example, dependent claim 2 recites that step (a) of claim 1 comprises four steps.⁸ Specifically, claim 2 recites a system where communication is already established without the transmission of any user data:

2. In a multiple access communication system according to claim 1, said step of establishing communications between said central controller and said plurality of remote terminals via a plurality of signalling data channels comprising the steps of:
 - (a) **polling by said central controller said plurality of remote terminals** on a pair of predetermined primary forward and backup forward signalling data channels **for an activated remote terminal**;
 - (b) **sensing by an activated remote terminal for a polling message from said central controller** on a predetermined backup forward signalling data channel if said predetermined primary forward signalling data channel is unavailable to said activated remote terminal because of its failure to sense a polling message during a predetermined period of time;
 - (c) **transmitting a registration message from said activated remote terminal to said central controller** on a predetermined primary reverse signalling data channel; and
 - (d) **retransmitting said registration message** on a predetermined backup reverse signalling data channel if said primary reverse signalling data channel is unavailable to said activated :remote [sic] terminal because of its failure to sense a

⁸ While claim 2 is not asserted in the instant litigation, dependent claims cannot be ignored when they shed light on the meaning of the claim terms. *See Phillips*, 415 F.3d at 1314 (“Because claim terms are normally used consistently throughout the patent the usage of a term in one claim can often illuminate the meaning of the same term in other claims.”) (internal citation omitted).

response from said central controller to said registration message after a predetermined period of time.

(emphasis added). Here, claim 2 requires that: the central controller send messages to solicit any remote terminals seeking to join the network (step (a)); a remote terminal seeking to join the network listen for a solicitation message sent by the central controller (step (b)); the remote terminal transmit a registration message (step (c)); and the remote terminal wait for a response, and if none is received, it transmit a registration message on a different channel (step (d)). While claim 2 defines establishing communication between a central controller and a remote terminal, it does not describe transmitting anything other than signalling messages. Indeed, there is no requirement that the central controller make a determination that the particular remote terminal is even authorized to communicate on the network, let alone a requirement that “user information can be transmitted and received” as defendants propose. Defendants’ proposal is therefore far more restrictive than the process of “establishing communications” provided in claim 2, and should be rejected for this independent reason.

D. Monitoring, Determining Whether to Reassign, and Reassignment Steps

1. “monitoring the status of a plurality of the signalling data channels in use . . . for the usability of said signalling data channels” / “the usability of said signalling data channels” (claim 1, step (b))

Term	C-Cation’s Construction	Defendants’ Construction
monitoring the status of a plurality of the signalling data channels in use . . . for the usability of said signalling data channels	monitoring at least two of the signalling data channels being used for one or more conditions that affect the usability of the signalling data channels	No construction necessary. Phrase is indefinite under 35 USC 112 ¶ 2. See proposed construction for “usability of said signalling data channels”
the usability of said signalling data channels	Phrase should be given its ordinary meaning and does not require additional construction. If construed: one or more conditions that affect the usability of the signalling data channels	Indefinite under 35 USC 112 ¶ 2. If not indefinite: the receipt of an expected response to a message sent by the central controller to a specific remote terminal

The dispute concerning the “monitoring” step of claim 1 centers around whether monitoring for the “usability” of signalling data channels includes monitoring for one or more factors that determine channel usability, as C-Cation proposes; or whether it is either indefinite or else requires a binary determination of whether a channel has completely failed, as defendants propose. As the Court previously determined, C-Cation’s proposed construction is supported by the claim language and the specification. *See C-Cation v. Comcast*, D.I. 222 at 25-28. Further, as the Court reasoned, “usability” is not limited to whether a channel has failed or not, and the term does not require further construction. *See id.*

With regard to indefiniteness, defendants contend that “the usability of said signalling data channels” is indefinite due to the inclusion of “usability,” which, they argue, does not provide guidance to a person of ordinary skill in the art about the boundaries of the claim as there

is no objective boundary to determine when a signalling data channel is usable. *See* D.I. 73-3 at 8.⁹ Defendants' are incorrect.

When the claim is read in context, as it must be, it is clear that "usability" is not a term of degree requiring objective boundaries. *See Phillips*, 415 F.3d at 1314. Instead, step (b) merely states that one or more **factors relating to** the usability of the channels are monitored. Step (b) does not, therefore, involve a qualitative determination, but rather defines the types of parameters that are monitored. Defendants' position is thus based on an incorrect premise and should be rejected. *See Phillips*, 415 F.3d at 1314; *Abstrax*, 2015 U.S. Dist. LEXIS 3384, at *50 (rejecting indefiniteness position where "Defendant gives no effect to the surrounding claim limitations and instead attempts to construe the term in isolation.").

The specification of the '883 patent provides several examples of parameters that could be monitored relating to the "usability" of a signalling data channel. For example, the specification states:

At any time, the central controller can initiate the terminal re-assignment process if deemed appropriate for the varying traffic demand or other system dynamics.

The determining factors of signalling data channels availability **include the number of remote terminals** using the signalling data channel, the **traffic requirements, past collision count, channel error status, and bandwidth of the signalling data channel.**

'883 patent, col. 8:32-39.

Further, Claim 3, which depends from claim 1 and specifically recites that step (b) of claim 1 includes four steps, also provides several factors, any of which may be tracked relating to

⁹ Docket entry 73-3 corresponds to Exhibit 2 of the parties' Joint Claim Construction Statement, filed on December 5, 2014. This exhibit contains a summary of opinions of defendants' proffered expert, Dr. Dan Schonfeld.

“usability.” Specifically, claim 3 recites in its entirety:

3. In a multiple access communication system according to claim 1, said step of monitoring the status of a plurality of the signalling data channels in use between said central controller and said plurality of remote terminals for the usability of said signalling data channels comprising the steps of:
 - (a) calculating the **aggregate traffic load** requirements of said plurality of signalling data channels in use;
 - (b) monitoring the **past collision count** of said plurality of signalling data channels in use;
 - (c) monitoring the **transmission error count** of said plurality of signalling data channels in use; and
 - (d) sensing the status of said plurality of signalling data channels in use for **failure**.

(emphasis added).

In view of the specification, the language of claim 1 itself, and the dependent claims, a person of ordinary skill in the art would understand that step (b) requires tracking one or more conditions related to the “usability” of signalling data channels. Defendants’ assertion that the phrase “usability of said signalling data channels” is indefinite should be rejected.

In addition to defendants’ miscasting of the context of the claim to support their indefiniteness assertion, their proposed construction is improper as it unjustifiably reads limitations into the claim. Specifically, defendant’s construction requires a determination as to whether “the receipt of an expected response to a message sent by the central controller” is at all possible. That is, defendant’s construction improperly requires a channel to either be available or not available. But neither the specification nor the claim language supports such a limited construction. Indeed, the specification teaches that the claimed monitoring and determinations can be based on other determinations that may weigh a number of factors to determine the desirability of a reassignment. *See, e.g.*, Ex. 1, col. 6:54-57 (“For example, channel arrangement

can be adjusted according to traffic pattern mix and/or more intelligent management scheme can be implemented with various priority lists.”); col. 8:35-41.

And, as discussed, claim 3 modifies step (b) of claim 1, and clarifies that monitoring for usability includes more than just sensing for channel failure. Defendants’ construction is completely inconsistent with the teachings of the specification and of claim 3 and should be rejected as too limiting. *See Phillips*, 415 F.3d at 1314.

2. “determining whether one of said plurality of remote terminals needs to be reassigned” / “needs to be reassigned” (claim 1(c))

Term	C-Cation’s Construction	Defendants’ Construction
determining whether one of said plurality of remote terminals needs to be reassigned	Phrase should be given its ordinary meaning and does not require additional construction.	No construction proposed other than for “needs to be reassigned.”
needs to be reassigned	Phrase should be given its ordinary meaning and does not require additional construction.	Indefinite under 35 USC 112 ¶ 2. If not indefinite: reassignment is required because the channel is unable to carry additional signalling data

Similar to the “monitoring” step of claim 1, defendants assert that the “determining” step (c) is indefinite, or else limited to a binary determination of whether communication on a channel is possible or not. As the Court previously determined, the term “determining whether one of said plurality of remote terminals needs to be reassigned” is clear on its face and can be applied by the jury without construction, and thus requires no construction other than for the term “remote terminals” as set forth above. *See C-Cation v. Comcast*, D.I. 222 at 28-31. Further, as the Court reasoned, “needs” is not limited to whether a channel has failed or not, and the term does not require further construction. *See id.*

Defendants contend that “needs to be reassigned” is indefinite because “needs” does not

provide guidance to a person of ordinary skill in the art about the boundaries of the claim as there is no objective boundary to determine when a signalling data channel “needs” to be reassigned. *See* D.I. 73-3 at 9. Defendants’ assertion is incorrect as it reads the phrase “needs” in isolation and out of context of claim 1 as a whole. *See Phillips*, 415 F.3d at 1314.

Here too, defendants’ position is based on an incorrect premise. Within the context of the claim, “needs” is not a term of degree. Instead, all that is required in step (c) is the existence of a threshold of a monitored condition to indicate that need exists. The claim has no requirement as to what that threshold must be. Thus, defendants’ argument that one of ordinary skill in the art must find a specific threshold is incorrect. The existence of a threshold based on a condition monitored in step (b) is sufficient. Defendants’ attempt to construe “needs to be reassigned” without considering the context of the claim should be rejected. *See Phillips*, 415 F.3d at 1314; *Abstrax*, 2015 U.S. Dist. LEXIS 3384, at *50 (rejecting indefiniteness position where “Defendant gives no effect to the surrounding claim limitations and instead attempts to construe the term in isolation”).

This understanding is supported by the specification, which teaches that the claimed determinations can be complex and may weigh a number of factors to determine the desirability of a reassignment. *See, e.g.*, Ex. 1, col. 6:54-57 (“For example, channel arrangement can be adjusted according to traffic pattern mix and/or more intelligent management scheme can be implemented with various priority lists.”); col. 8:35-41. Moreover, claim 4, which depends from claim 1 and specifically relates to step (c) of claim 1, makes clear that two possible reasons where a need for reassignment could be recognized are in instances of channel overloading or channel failure. In particular, in each instance there is a need to reassign one or more remote terminals away from the affected channel. These, obviously, are only two of the criteria that one

may use to determine what threshold is appropriate for the particular system.

Here again, in addition to defendants’ mischaracterizing the context of the claim to support their indefiniteness assertion, their proposed construction also improperly reads limitations into the claim. *See Thorner*, 669 F.3d at 1366; *Arlington Indus.*, 632 F.3d at 1254; *i4i Ltd. P’ship*, 598 F.3d at 843; *Kara Tech.*, 582 F.3d at 1348; *Acumed*, 483 F.3d at 807-08.

Defendants’ construction requires that determining “need” must be binary—whether the channel has failed or not. But this is contradicted by claim 4, in which it is specified that the claimed “determining” includes overloading as well as failure. As it is impossible to reconcile the steps of claim 4 with defendants’ proposed construction, defendants’ proposed construction cannot be correct. *See Phillips*, 415 F.3d at 1314.

3. “determining whether a different and suitable signalling data channel is available” (claim 1, step (d)) / “is available” (claim 1, step (d)) / “reassigning by said central controller said remote terminal to a different and suitable signalling data channel” (claim 1, step (e))

Term	C-Cation’s Construction	Defendants’ Construction
determining whether a different and suitable signalling data channel is available	Phrase should be given its ordinary meaning and does not require additional construction.	“different and suitable” is indefinite under 35 USC 112 ¶ 2. “is available” should be construed as “capable of carrying signalling data”
is available	Phrase should be given its ordinary meaning and does not require additional construction.	capable of carrying signalling data
reassigning by said central controller said remote terminal to a different and suitable signalling data channel	Phrase should be given its ordinary meaning and does not require additional construction.	“different and suitable” is indefinite under 35 USC 112 ¶ 2. If not indefinite, the parties agree this term should be given its ordinary meaning.

Defendants also assert that steps (d) and (e) of claim 1 are indefinite due to their inclusion of the phrase “different and suitable.” And, if step (d) is not indefinite, defendants seek to impose a binary limitation on step (d) that a channel “is available” when it has not failed. As the Court previously determined, the term “reassigning by said central controller said remote terminal to **a different and suitable** signalling data channel” (emphasis added) is clear on its face and can be applied by the jury without construction, and thus requires no further construction. *See C-Cation v. Comcast*, D.I. 222 at 33-34. Further, as the Court previously determined, “‘available’ means merely being present for use,” and does not require further construction. *See id.* at 32.

According to defendants, the phrase “different and suitable” also does not provide guidance to a person of ordinary skill in the art about the boundaries of the claim as there is no objective boundary to determine when a signalling data channel is “suitable.” *See* D.I. 73-3 at 10. However, defendants once again fail to account for the context of the phrase “different and suitable.” *See Phillips*, 415 F.3d at 1314. In context, it is clear that “suitable,” as used in claim 1, is not a term of degree. Instead, all that is required in step (d) is a determination of whether a channel is “suitable” based on a condition previously monitored in step (b). The existence of a threshold of a monitored condition is all that is required. Thus, defendants’ assertion that one of ordinary skill in the art must find a specific threshold for “suitable” is incorrect, as the context of the claim makes clear. *See Phillips*, 415 F.3d at 1314; *Abstrax*, 2015 U.S. Dist. LEXIS 3384, at *50 (rejecting indefiniteness position where “Defendant gives no effect to the surrounding claim limitations and instead attempts to construe the term in isolation.”)

Indeed, as discussed above, the patent teaches that a “suitable” channel could be a channel that has spare capacity, as indicated in dependent claim 5. This understanding is

reinforced by the patent specification. For example, the specification states that one of the goals of the patent is to improve responsiveness and quality of communication. *See* Ex. 1, col. 1:35-38. Further, the patent specifies several factors that could be used in determining availability of a signalling data channel, including “the number of remote terminals using the signalling data channel, the traffic requirements, past collision count, channel error status, and bandwidth.” *Id.* at col. 8:35-39.

Moreover, the meaning of “is available” is clear on its face and can be applied by the jury without construction. *See Thorner*, 669 F.3d at 1365-66; *Finjan*, 626 F.3d at 1207; *U.S. Surgical Corp.*, 103 F.3d at 1568. The phrase is not imputed with special meaning and does not have any specific technical significance.

However, defendants’ proposed construction, once again seeks to improperly import limitations into the claim. Indeed, defendants’ construction seeks to limit a determination of availability to whether a channel has failed or not, which would render other claim terms meaningless. For example, the express language of claim 1 requires a signaling channel that is more than just available—it must also be “suitable” as it relates to the conditions monitored in step (b). Because the conditions monitored include more than failure, defendants’ construction is improperly limiting and should be rejected. *See Thorner*, 669 F.3d at 1366; *Arlington Indus.*, 632 F.3d at 1254; *i4i Ltd. P’ship*, 598 F.3d at 843; *Kara Tech.*, 582 F.3d at 1348; *Acumed*, 483 F.3d at 807-08.

4. “said predetermined signalling data channel” (claim 1, step (c)) / “said predetermined channel” (claim 1, step (d))

Term	C-Cations Construction	Defendants’ Construction
said predetermined signalling channel	one of the signalling data channels in use	Indefinite under 35 U.S.C. 112 ¶ 2 due to lack of antecedent basis.
said predetermined channel	one of the signalling data channels in use	Indefinite under 35 U.S.C. 112 ¶ 2 due to lack of antecedent basis.

Defendants assert that the terms “said predetermined signalling data channel” and “said predetermined channel” are indefinite under 35 U.S.C. § 112, ¶ 2 for lack of antecedent basis, and are incapable of construction. The Court addressed this precise issue in its previous claim construction ruling, and found that neither term is indefinite. *See C-Cation v. Comcast*, D.I. 222 at 41-44. The Court’s determination is correct and there is no reason to alter it.

A lack of antecedent basis does not render a claim invalid if it can be construed based on an understanding of a person of ordinary skill in the art. “When the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification, the claim is not subject to invalidity upon departure from the protocol of ‘antecedent basis.’”

Energizer Holdings, Inc. v. Int’l Trade Comm’n, 435 F.3d 1366, 1370 (Fed. Cir. 2006); *see In re Skvorecz*, 580 F.3d 1262, 1268-69 (Fed. Cir. 2009). Even where an explicit antecedent basis is absent, “an antecedent basis can be present by implication.” *Energizer Holdings*, 435 F.3d at 1371 (citing *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 810 F.2d 1113, 1116 (Fed. Cir. 1987)); *see also Paradox Sec. Sys. Ltd. v. ADT Sec. Servs., Inc.*, 710 F. Supp. 2d 590, 611-12 (E.D. Tex. 2008).

In claim 1, it is clear that reference to “other than said predetermined signalling data channel” in step (c) and “other than said predetermined channel” in step (d) both refer to any one of the channels that comprise the recited “a pair of predetermined signalling data channels” in

step (a). Indeed, the parties do not dispute that “a pair of predetermined signalling data channels” includes one forward and one reverse signalling data channel. Thus, it would be “reasonably ascertainable by those skilled in the art” that the terms “said predetermined signalling data channel” and “said predetermined channel” refer to one of the previously recited “pair of predetermined signalling data channels,” namely, either the forward or reverse signalling data channel to which the remote terminal is assigned in step (a) of claim 1.

The specific context in which “said predetermined signalling data channel” and “said predetermined channel” appear in the claims and the specification of the ’883 patent make abundantly clear that a person of ordinary skill in the art would understand the terms. Step (a) of claim 1 requires establishing communications between a central controller and a plurality of remote terminals, “each of said remote terminals being initially assigned to a pair of predetermined signalling data channels.” Step (c) then requires determining whether a remote terminal should “be reassigned to a different signalling data channel other than said predetermined signalling data channel,” and step (d) recites determining whether a signalling data channel is available “other than said predetermined channel.” One of ordinary skill in the art would have understood that the channels referred to in steps (c) and (d) are either the forward signalling data channel or reverse signalling data channel to which the remote terminal was initially assigned in step (a).

The specification of the ’883 patent further supports this understanding as it indicates that the pair of signalling data channels to which a remote terminal is initially assigned comprise a forward and reverse signalling data channel:

“[i]f there is no available signalling data channel already in use, the central controller will check for available channel from the pool of transmitters and/or the pool of receivers, and proceeds with allocation if there is available channel from

the pool (or a pair in case that neither the forward nor the reverse signalling data channels are available).”

Ex. 1, col. 8:44-50 (emphasis added).

Therefore, the terms “said predetermined signalling data channel” and “said predetermined channel” unambiguously refer to one of the previously recited “pair” of channels and are not indefinite. *Smartflash L.L.C. v. Apple Inc.*, Nos. 6:13cv447 and 6:13cv448, 2014 WL 6873161, at *18 (E.D. Tex. Dec. 4, 2014) (Schneider, J.) (finding term definite based on implicit antecedent basis) (citing *Energizer Holdings*, 435 F.3d at 1371).

E. Order of Claim Steps (claim 1)

C-Cation’s Construction	Defendants’ Construction
<p>The steps of claim 1 are not required to be performed in any particular order except that:</p> <p>steps (c) and (d) must be performed after steps (a) and (b); and</p> <p>step (e) must be performed after all other steps.</p>	<p>The steps of claim 1 ((a) through (e)) are ordered in sequence.</p>

This dispute concerns the extent to which the claim steps need to be performed in a particular order. Defendants require each step to be performed after the previous step while C-Cation does not. While C-Cation agrees that the language of claim 1 requires a certain order of the steps, the logic and grammar of the claim 1 does not require that each of steps (a) through (e) be performed in sequential order. For example, there is no requirement that the claimed monitoring of signaling data channels in use (step (b)) begin after all the remote terminals are assigned in step (a). In fact, it is entirely logical that a central controller would constantly monitor the signaling data channels in use and constantly establish communications with remote terminals that are joining or rejoining the communications network while those channels are monitored. Nothing in either the claim language or the specification prohibits such a scenario.

There is no requirement that **all** remote terminals be joined before the claimed “monitoring” can take place. As such, defendants’ proposal should be rejected as the order of claim steps is neither imposed by the language of the claims, nor required by the specification. *See Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371 (Fed. Cir. 2003) (holding that it is improper to read a specific order of steps into method claims where, as a matter of logic or grammar, the language of the method claims does not impose a specific order of performance and the specification does not require a particular order).

VI. CONCLUSION

For the foregoing reasons, C-Cation respectfully requests that the Court adopt its constructions where provided, and decline to construe the terms that C-Cation has indicated do not require construction.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on January 16, 2015 all counsel of record were served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

By: /s/ Sam Baxter